

Claims

- [c1] What is claimed is:
1. A method for applying for crypto-keys from a network system, the network system comprising at least a first user client, an access point having an identifying module and a user list, and a certificate server, the access point being used to receive a certificate packet from the first user client and to utilize the identifying module to verify the certificate packet according to the user list so as to generate a verification signal, the certificate server being used to generate a pair of distinct crypto-keys according to the verification signal and a first algorithm, the method comprising:
 - utilizing the first user client to generating the certificate packet;
 - utilizing the access point to receive the certificate packet;
 - utilizing the identifying module to verify the certificate packet according to the user list so as to generate the verification signal, and transmitting the verification signal to the certificate server;
 - utilizing the certificate server to generate the pair of distinct crypto-keys according to the first algorithm;
 - controlling the certificate server to transmit the pair of crypto-keys to the access point; and
 - controlling the access point to transmit the pair of crypto-keys to the first client.
 - [c2] 2.The method of claim 1 wherein the certificate packet comprises a user name and a password.
 - [c3] 3.The method of claim 1 wherein the first algorithm is a Rivest Shamir Asleman (RSA) algorithm.
 - [c4] 4.The method of claim 1 wherein the first algorithm is a digital signature algorithm (DSA).
 - [c5] 5.The method of claim1 wherein the pair of crypto-keys is a public key and a private key.
 - [c6] 6.The method of claim 1 wherein the network system further comprises at least

a second user client communicating with the access point, and the first user client comprises a first encryption module for encrypting a plain text into a ciphered text according to a second algorithm and a first key of the pair of crypto-keys, the second user client comprises a second decryption module for decrypting the ciphered text into the plain text according to a third algorithm and a second key of the pair of crypto-keys, the method further comprising: transmitting the second key from the first user client through the access point to the second user client;

utilizing the first encryption module to encrypt the plain text into the cipher text according to the second algorithm and the first key;

transmitting the ciphered text from the first user client through the access point to the second user client; and

utilizing the second decryption module to decrypt the ciphered text according to the third algorithm and the second key.

[c7] 7.The method of claim 6 wherein the second algorithm and third algorithm are associated with the first algorithm.

[c8] 8.The method of claim 6 wherein the first user client further comprises a first decryption module for decrypting the ciphered text into the plain text according to the third algorithm and the first key, and the second user client further comprises a second encryption module for encrypting the plain text into the ciphered text according to the second algorithm and the second key, the method further comprising:

utilizing the second encryption module to encrypt the plain text into the ciphered text according to the second algorithm and the second key;

transmitting the from the second user client through the access point to the first user client; and

utilizing the first decryption module to decrypt the ciphered text according to the third algorithm and the first key.

[c9] 9.The method of claim 1 wherein the network system further comprises at least a second user client communicating with the access point, and the first user client comprises a first encryption module for encrypting numbers according to

a second algorithm and a first key of the pair of crypto-keys, the second user client comprises a second decryption module for decrypting numbers according to a third algorithm and a second key of the pair of crypto-keys, the method further comprising:

transmitting the second key from the first user client through the access point to the second user client;

controlling the first user client to convert a plain text into a first value according to a fourth algorithm;

utilizing the first encryption module to encrypt the first value according to the second algorithm and the first key;

transmitting the and the encrypted first value from the first user client through the access point to the second user client;

utilizing the second decryption module to decrypt the encrypted first value according to the third algorithm and the second key;

controlling the second user client to convert the plain text into a second value according to the fourth algorithm; and

comparing the second value with the decrypted first value to verify the plain text transmitted from the first user client to the second user client.

- [c10] 10.The method of claim 9 wherein the fourth algorithm is a message digest 2 (MD2) algorithm.
- [c11] 11.The method of claim 9 wherein the fourth algorithm is a message digest 5 (MD5) algorithm.
- [c12] 12.The method of claim 9 wherein the fourth algorithm is a secure Hash algorithm (SHA).
- [c13] 13.The method of claim 9 wherein the second algorithm and third algorithm are associated with the first algorithm.
- [c14] 14.The method of claim 9 wherein the first user client further comprises a first decryption module for decrypting numbers according to the third algorithm and the first key, and the second user client further comprises a second encryption module for encrypting numbers according to the second algorithm and the

second key, the method further comprising:
controlling the second user client to convert the plain text to the first value according to the fourth algorithm;
utilizing the second encryption module to encrypt the first value according to the second algorithm and the second key;
transmitting the and the encrypted first value from the second user client through the access point to the first user client;
utilizing the first decryption module to decrypt the encrypted first value according to the third algorithm and the first key;
controlling the first user client to convert the forth algorithm; and
comparing the second value with the decrypted first value to verify the plain text transmitted from the second user client to the first user client.